WILDLIFE HABITAT INCENTIVES PROGRAM

WHIP

2005

Implementation Plan

And

Instructions

Natural Resources Conservation Service
Columbia, South Carolina

November, 2004

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2005
Application and Evaluation
Instructions

PROCEDURE

1. After reviewing the Implementation Plan, print and/or copy only the forms needed to complete the application and evaluation.
2. Complete a Wildlife Habitat Evaluation for all land uses and fields in the contract area for the existing condition.
3. Determine the practices needed based on the Wildlife Habitat Evaluation.
4. Complete the Wildlife Habitat Evaluation for all land uses and fields for the planned condition.
5. Complete the WHIP Application and Evaluation Worksheets (NRCS-LTP-15, SC Revised 1/04) in entirety, including the required signatures.
6. When preparing WHIP Application and Evaluation Worksheets (NRCS-LTP-15, SC Revised 1/04), only practices listed as approved are authorized for cost share.
7. After you are notified of the contracts funded, forward the completed worksheet to the program specialist.

NOTE: *Incomplete worksheets will be returned to the field office for completion prior to being placed on the state-ranking list for funding.*

GUIDANCE

The only land clearing authorized for cost share payment is that clearing associated with the establishment of permanent firebreaks, 12 to 15 feet wide. Waterfowl impoundments are not authorized for payment, such as duck ponds or green tree reservoirs.

Use the **Wildlife Habitat Evaluation Worksheets** for planning purposes and to assist in the location of practices. Complete evaluation at the beginning for ranking purposes, when all essential practices are completed, and at the end of the contract period. Landowners may create forest openings in pine stands at their own expense as a part of a selective timber harvest and receive points and cost share for management of rotational disking or prescribed burning. Openings should be separated by about 600 feet to optimize utilization based on the Wildlife Habitat Evaluation. Remember that forest openings for wildlife are 0.5 to 2.0 acres in size, and they may be planted to an annual seed crop, the year that they are disked (every 3 years), and then left fallow for two years.

Prescribed burning (338): a detailed prescribed burning plan must be prepared by *SCFC* or other *Certified Prescribe Fire Manager* for each contract with prescribed burning planned. A copy of the burn plan must be in the contract folder prior to submitting for payment.

If fallow fields
or openings are to be managed for early successional vegetation and are larger than 2 acres; the field may be divided with a hedgerow, 25 – 50 feet wide.

Hedgerows (422): The purpose of hedgerows is to subdivide larger fields into smaller fields (open land). Shrub lespedeza strips may be used in the hedgerow as well as other woody vegetation, trees and shrubs. Shrub lespedeza strips are typically 15 feet wide, whereas a hedgerow is 25 to 50 feet wide. Shrub lespedeza strips in the woods do not qualify as hedgerows nor do bicolor plots along the edge of field, in the field borders. Shrub lespedeza strips are cost sharable if they are a part of a legitimate hedgerow. They would not be cost sharable just as plots in the woods or in the field border. Field borders are managed for early successional vegetation, with rotational disking.

Tree and shrub planting are cost sharable for hedgerow establishment or for longleaf pine establishment, only.

Firebreaks (394): Permanent firebreaks 12-15 feet wide are cost-shared for establishment through disking or land clearing. They are generally perimeter firebreaks and 1 or 2 internal breaks permanently located which can be disked at time of burning. Temporary breaks with fire plows are included with the prescribed burning cost-share and are cost-shared separately.

Forest Site Preparation (490): This practice may include herbicide treatment to control undesirable herbaceous, grasses, or woody vegetation, such as fescue or bermudagrass.

Forest Stand Improvement (666): This practice may include mechanized removal of under story or mid story woody vegetation, such as with a KG blade, roller chopper, or gyro-track.

Remember: when reporting Upland Wildlife Habitat Management (645), any field that ranks out on the Wildlife Habitat Evaluation with a score >0.5, 645 may be reported for the entire field ranked, not just the field border or hedgerow. The entire field benefits from the management.

INTRODUCTION

The Wildlife Habitat Incentives Program (WHIP) was established by the 1996 Farm Bill for the purpose of making technical and financial assistance available to landowners to develop, enhance, and restore upland wildlife, wetland wildlife, threatened and endangered species, fish and other types of wildlife habitat. South Carolina's Department of Natural Resources has identified bobwhite quail and other species associated with grassland, and early successional/shrub habitat as being a "Priority Conservation Concern" in the state. The Natural Resources Conservation Service and the State Technical Committee followed in identifying these species and habitat to also be of primary concern, in order to target technical and financial assistance to landowners in South Carolina. Because of the dependence of quail and other edge species on very specific types of early successional habitat, current land use practices (both forestry and farming) eliminate suitable nesting, brood rearing, escape, and winter cover in most instances.

STATE OBJECTIVES

1. Restore early successional habitat, and riparian areas.
2. Restore historical rice field and marshland habitat for wintering waterfowl and shorebird habitat.
3. Restore Longleaf Pine ecosystem, including wiregrass.
4. Restore and enhance trout stream habitat in the Upstate of South Carolina.

STATE WILDLIFE PRIORITIES

The following priorities have been identified as needs throughout the state, and extending across state lines throughout the southeast region. Bobwhite quail populations have declined drastically in over three-fourths of the states within their geographical distribution since the 1960's. The decline has been steeper in the southeastern United States than in the midwestern or northern regions. South Carolina has been especially hard hit by the quail decline as populations have plummeted by about fifty percent since the 1980's alone.

PARTNERSHIP INVOLVEMENT

Existing partnerships were used to deliver a public information and education program to inform landowners and land users of the ecological and economic importance of wildlife habitat management. Cooperative roles by these partners were defined as delivering on-site technical assistance to evaluate habitat conditions and providing sound ecologically based recommendations, as identified by the priorities.

POTENTIAL PARTNERSHIPS	*ROLE*
Natural Resources Conservation Service	Information/Education/Technical/Financial
U. S. Fish and Wildlife Service	Information/Education/Technical/Financial
Farm Services Agency	Administrative/Information
S.C. Department of Natural Resources	Information/Education/Technical
S.C. State University Cooperative Extension Service	Information/Education

Clemson University Cooperative Extension Service	Information/Education
Soil and Water Conservation Districts	Information/Education
National Wild Turkey Federation	Information/Education
Quail Unlimited	Information/Education
Ducks Unlimited	Information/Education/Technical
S. C. Waterfowl Association	Information/Education
National Audubon Society	Information/Education
S. C. Forestry Commission	Information/Education/Technical
The Nature Conservancy	Information/Education
S.C. Wildlife Federation	Information/Education
U.S. Forest Service	Information/Education
S.C. Department of Agriculture	Information/Education

PROGRAM DELIVERY

There are about 1600 Forest Stewardship plans existing with unfunded practices that target wildlife habitat, fish habitat, and riparian areas. The existing unfunded practices represent significant financial assistance needs, which are consistent with the WHIP objectives and priorities. There are numerous existing conservation plans with wildlife enhancement practices that are awaiting opportunities for financial assistance to be installed.

- *Information and education delivery:* Publicize WHIP program by local newspapers, radio spot announcements, organization newsletters, SC Department of Agriculture, SC Wildlife Magazine, SCDNR brochure on all Farm Bill programs, and public meetings.

Delivery of wildlife technical expertise to field offices:

- *Technical assistance to landowners:*
  NRCS - 39 field offices, 1 wildlife biologist, and 4 RC&D offices.
  FWS - 2 wildlife biologist
  DNR - 20 wildlife biologists
  SCFC - 30 foresters
  DU - 1 wildlife biologists
  Clemson University – 2 biologists

APPROVED PRACTICES FOR COST SHARE

Required Practices (At least one of the following must be planned):
645 Upland Wildlife Habitat Management
644 Wetland Wildlife Habitat Management
657 Wetland Development or Restoration
395 Stream Habitat Improvement and Management
647 Early Successional Habitat Management

Associated Practices:
560 Access Road
342 Critical Area Planting (native vegetation only)

356 Dike
386 Field Borders (native vegetation only)
394 Firebreaks
490 Forest Site Preparation
666 Forest Stand Improvement
422 Hedgerow Planting
460 Land Clearing (permanent firebreaks only)
338 Prescribed Burning
391 Riparian Forest Buffer
612 Tree/Shrub Establishment
512 Pasture/Hayland Planting (Native Warm Season Grasses only)
382 Fence (livestock exclusion)

FUNDING NEEDS

Technical Assistance funds are used to participate in training, site evaluations, and plan development consistent with WHIP objectives. Technical assistance funds contributed by partnership consisted of in-kind assistance through participating in education programs, training sessions, public information distribution, and on-site technical assistance in preparing WHIP plans.

Financial Assistance funds from NRCS are used in conjunction with partnership and participant funds to implement the approved practices as detailed in the WHIP plans. The cost share rate is 75% of the state average cost list for approved practices found on pages 6 and 7 of this document.

RANKING PROCESS

The ranking process is based on the Wildlife Habitat Evaluation. Applications will be ranked on the net effect of the plan according to the wildlife habitat evaluation. Additional points are awarded for minimum amounts of habitat development as indicated on the LTP-15, as revised 11/04.

QUALITY ASSURANCE

The NRCS district conservationist will complete a status review of each contract before the end of the fiscal year, noting progress in applying the conservation plan or WHDP, need for revision, condition of practice installed, and need for technical assistance.

1. Complete a status review each fiscal year until all required practices are installed. Reviews will be conducted with the contract participant, if possible.
2. Status reviews may be conducted at any time of year.
3. Expiring contracts and must be reviewed at least 90 days before expiration and a new Wildlife Habitat Evaluation must be completed to document the effect of the plan.
4. The district conservationist has the option of monitoring activities as appropriate in conjunction with the status review.

The state conservationist will conduct quality assurance reviews of the conservation plan or WHDP according to the national NRCS policy.

MEASURING PROGRAM SUCCESS

Information Collection: The NRCS will collect the following information to evaluate the effectiveness of the WHIP in restoring wildlife habitat. The attached wildlife habitat evaluation will be completed accordingly.

1. Measure practices applied under the WHIP through established reporting methods; and
2. Complete wildlife habitat evaluation for baseline and applied conditions as contracts expire.

Monitoring: Baseline wildlife habitat assessments will be completed at time of WHDP development. Follow-up assessments will be conducted the year all essential practices are installed, and the year of contract expiration. The following information will be collected.

1. Maintenance of previously applied practices.
2. Comparison of planned and actual conditions.
3. Evaluate the improvement of the change in wildlife habitat as compared to the baseline conditions.
4. The State Conservationist will submit pertinent information to the National Office at a frequency determined by the Program Manager at the National Office.
5. Digital photographs will be taken in conjunction with monitoring activities.

SPECIAL WHIP PROJECTS

On going special WHIP projects in South Carolina include South Carolina Partners Project, Partners for Trout (Foothills Resource Conservation and Development), Clemson Pee Dee R&D Center, and the Piedmont Bobwhite Quail Focus Area Project.

South Carolina Partners is a cooperative project on the coast addressing wintering waterfowl habitat in coastal marshes by replacing rice trunk water control devises. These rice trunks allow landowners to properly management previous diked marshes and wetlands for wintering waterfowl. It's a joint project with the U.S. Fish and Wildlife Service and Ducks Unlimited. Cost rate is 50% for the trunks and installation.

Partners for Trout is a cooperative project with the FootHills RC&D Council in the Upstate of South Carolina. The participating partners in this project with the RC&D Council are S. C. Department of Natural Resources, U. S. Fish and Wildlife Service, and Trout Unlimited. The purpose of the project is trout stream restoration and enhancement. The goal is to protect existing native trout stream habitat and restore marginal stream habitat and their associated riparian areas. The number one problem identified was thermal pollution. Phase one was to identify existing reservoirs contributing to thermal pollution of the streams and retrofit them with deep water release structures. Phase two is

to identify unstable streams, which contribute to silt loading, and areas needing riparian buffer restoration.

Clemson University Pee Dee R&D Center is a cooperative project with Clemson University, S.C. Department of Natural Resources, and Ducks Unlimited. Its goal is to provide a demonstration of incorporating wildlife habitat practices into on-going farming operations. Habitat management response will be documented and economic analysis will be completed for installation and management of the practices.

Piedmont Bobwhite Quail Focus Area Project. This is a cooperative project between the South Carolina Department of Natural Resources, the U. S. Forest Service, Quail Unlimited, National Wild Turkey Federation and private landowners in and around the Sumter National Forest located in the Broad River area of Newberry County. The focus area comprises about 10,000 acres in the Sumter National Forest and private in-holdings and tract adjacent to national forest land. The goal is to develop and demonstrate integrated management techniques with timber, cropland, and livestock producers that meet forest and farm needs and quail habitat requirements. Practices include prescribed burning, firebreaks, selective thinning, early successional habitat management, native warm season grasses and control of non-native sod forming grasses, such as fescue and bermudagrass. Quail habitat and quail response will be monitored to determine the effectiveness of the practices in a forested piedmont landscape.

WILDLIFE HABITAT EVALUATION

BACKGROUND:

Natural Resources Conservation Service policy for assistance on private lands has, since its inception, required that conservation practice installation be accomplished with consideration for wildlife and wildlife habitat.

Application of conservation practices is generally considered to be beneficial for wildlife. Practices such as field borders, filter strips, grassed waterways, proper grazing management, and conservation tillage generally increase food, water, or cover and improve diversity for most wildlife species.

Practices such as brush management, drainage, timber stand improvement and pasture planting can reduce needed food and cover when applied without wildlife consideration. The effect of conservation practice installation on wildlife largely depends on practice selection, design, and plant species used.

It is not the responsibility of the Natural Resources Conservation Service to determine the extent to which landowners may or should consider wildlife needs in their operation. Neither does the NRCS determine which particular wildlife species should be managed. These decisions are made by the landowner based on economics, legal constraints, local conditions, and landowner objectives.

NRCS personnel have a responsibility and obligation to determine and explain to the decisionmaker what effect a planned system of conservation practices will have on wildlife resources of the particular land unit. Decisionmakers must be provided with this information in order to make intelligent and informed decisions about their property. The NRCS must have this information to assess the impact of practice installation and determine if service policy requiring consideration of wildlife is being properly followed. In the past, conservation practices were often designed and installed with little thought or study given to their effects on wildlife, unless the landowner indicated a specific wildlife interest.

Adoption of the total resource management policy (SWAPA) in conservation planning provides that emphasis be directed to plants, air, and animals in addition to soil and water. It requires that quality criteria be established for each of the five resources. Resource management systems consisting of various conservation practices are measured against these quality criteria to determine if acceptable levels of conservation are being met. **A national quality criterion for wildlife habitat has been set at 0.5 or 5O% of potential to meet the resource management system requirement, existing or planned, regardless of the landuse. For a wildlife land RMS, a score of .75 or 75% is required.**

In order to measure the degree to which the resource management systems meet the quality criteria, a method of evaluation is required. A subjective

evaluation based on the planner's knowledge is the simplest form. However, this method is dependent on the interest, ability, and knowledge of the planner. This method has been widely used in the past and its success or failure has been dependent upon the wildlife training provided to planners and the technical support provided by biologists. Unfortunately, the quality and amount of wildlife management training and technical assistance provided to field office personnel since 1985 has been minimal due to other workload requirements.

The attached habitat evaluation procedure is designed for use when planning a resource management system where wildlife is not the primary objective or intensive management for a species is not desired. This evaluation procedure is based primarily on diversity to give a general rating applicable to many different species.

INTRODUCTION:

The following evaluation is designed for use by employees who provide assistance in farm planning and who have limited training and knowledge in wildlife management. It is intended to assist decisionmakers in understanding the effects of various agricultural practices on wildlife and to provide documentation of the effects of Resource Management System implementation on wildlife resources.

This habitat evaluation is simplified to limit data input and the time required to complete it. It cannot be used to make detailed management recommendations required for intensive management. If the primary objective for a field or planning unit is wildlife, or it is to be intensively managed, a species based wildlife habitat appraisal procedure should be used, and the NRCS biologist or South Carolina Department of Natural Resources biologist contacted.

PROCEDURE:

(1) Identify all crop, forest, old field, pasture, and wetland areas on the tract or farm. Fields should include borders around them such as woody fence rows that divide crop fields. Hayland should be included with pasture. If a particular type of landuse does not seem to fit any of the types listed, contact the state biologist.

(2) If the tract has only one field in a habitat type, or all fields within a habitat type are similar, only one field needs to be evaluated. If the tract has fields that vary in habitat quality within a habitat type, all fields should be inventoried and a weighted average score computed. If there are significant differences in the same field, the field may be divided and more than one evaluation done. For example, if one forest field had a pine plantation on part and an old mixed pine hardwood stand on the remainder, the two areas should be evaluated separately if more than one of these variations occurs on the farm, use the weighted average score for the landuse.

(3) Complete the worksheet inventory forms (see attachments) for the appropriate field(s) and compute the score for each habitat type. This evaluation will provide information on the quality of habitat for the EXISTING CONDITION. Observing what features receive a low score will help the planner determine what could be done to improve the habitat.

(4) Repeat the evaluation for each of the Resource Management Systems being considered and determine the effects of each of the PLANNED alternatives on the wildlife resource. If the score for any existing habitat type is low, practices should be chosen which will improve habitat quality.

(5) Complete the summary sheet to determine if the selected alternative meets the quality criteria for a Resource Management System and is acceptable to the decisionmaker.

Quality Criteria: In order to meet the FOTG Quality Criteria for wild animal habitat, the Habitat Type Index for each land use must have an index greater than 0.5. In general, a habitat index below 0.25 indicates poor habitat, between 0.25 and 0.5 is fair habitat, 0.5 to 0.75 is good and above 0.75 would be excellent habitat.

HABITAT TYPE INDEX (HTI) WORKSHEET FOR CROPLAND HABITAT

Participant_____ Tract No. _____
Date _____ Field No. _____
Observer _____ Acres _____

Note: This form may be used for all fields that are planned and managed alike.

CROPLAND HABITAT INDEX	POINTS	EXIST	PLAN
Crop Residue Management		_____	_____
(>75% acreage)			
Continuous no-till (long term)	15		
No-till farming, 3 out of 5 years	12		
No fall tillage only	8		
Conventional and fall tillage	1		
***Add 2 bonus points,** if cover crops are no-till drilled with 60% residue left on the surface**.**			
Crop Species		_____	_____
(>50% acreage & years)			
Corn, soybeans, sorghum, millets, and/or small grains	10		
All else	1		
Distance to forest (>10 ac.) or woody cover (>25 ft. wide) connecting to forest (>10 acres).		_____	_____
>75% of field within 330 ft.	15		
50 – 75% of field within 330 ft.	10		
25 – 50% of field within 330 ft.	5		
<25% of field within 330 ft	1		
***Distance to native herbaceous or NWSG strips (>25 ft. wide) within field,* such as filter strips, waterways, diversions.**		_____	_____
>75% of field within 330 ft.	10		
50 – 75 % of field within 330 ft.	7		
25 – 50 % of field within 330 ft.	4		
<25% of field within 330 ft	1		
Percent of Field Perimeter With a Field Border		_____	_____
For each 10% of field perimeter with a width of:			
>25 ft. native herbaceous vegetation.	**Add 5 points/10%**.		
> 10 ft. native herbaceous vegetation.	**Add 3 points/10%.**		
>10 ft. mixture of introduced, and native herbaceous vegetation,	**Add 1 point/10%.**		
(A) Total Cropland Habitat Points (100 maximum)		_____	_____
(B) Cropland Habitat Index (Total points/100)		_____	_____

HABITAT TYPE INDEX (HTI) WORKSHEET FOR OLD FIELD HABITAT (2 acres or more)

Participant_____ Tract No. _____
Date _____ Field No. _____
Observer _____ Acres _____

Note: This form may be used for all fields that are planned and managed alike.

OLD FIELD HABITAT INDEX	POINTS	EXIST.	PLAN
Species Composition		_____	_____
Many species of grass, legumes, forbs (>4)	10		
Stand dominated by a few species (2-4)	5		
Stand dominated by a single species (>75%)	1		
Manipulation (Burning, disking)		_____	_____
3 year rotation	25		
2 year rotation	15		
Mowing (2-3 year rotation)	10		
Annual or > 3 years rotation	1		
Distance to woody cover (>25 ft. wide) connecting to forest at least 10 acres in size.		_____	_____
>75% of field within 330 ft.	15		
50 – 75 % of field within 330 ft.	10		
25 – 50 % of field within 330 ft.	5		
<25% of field within 330 ft	1		
Percent of Field in early successional herbaceous vegetation (1 to 3 yrs. Old)		_____	_____
For each 10% of field: add 5 points. (**Max. 50 points**)			
(A) Total Old Field Habitat Points (100 maximum)		_____	_____
(B) Old Field Habitat Index (Total points/100)		_____	_____

HABITAT TYPE INDEX (HTI) WORKSHEET FOR PASTURELAND/HAYLAND HABITAT

Participant _____ Tract No. _____
Date _____ Field No. _____
Observer _____ Acres _____

Note: This form may be used for all fields that are planned and managed alike.

PASTURELAND HABITAT INDEX	POINTS	EXIST	PLAN
Composition		_____	_____
(>50% acreage)			
Native warm season mixture (>2) with forbs	25		
Single native grass-legume mixture	9		
Introduced and native grass (>50%) mix	8		
Single legume	7		
Single native warm season grass seeded Or managed at forage rates.	6		
Introduced grass with clover	5		
Bermudagrass with small grain	4		
Bahiagrass	3		
Fescue or bermudagrass	1		
Prescribed Grazing Plan (528A) or Forage Management (511)		_____	_____
With native grass or legume in mix	10		
Without native grass or legume in mix	3		
Corridor management			
Distance to ungrazed woody cover (>25 ft. wide) connecting to forest at least 10 acres in size.		_____	_____
>75% of field within 330 ft.	25		
50 – 75 % of field within 330 ft.	15		
25 – 50 % of field within 330 ft.	10		
<25% of field within 330 ft	1		
Distance to ungrazed native herbaceous or NWSG areas (>25 ft. wide) Such as field border or odd corners, etc.		_____	_____
>75% of field within 330 ft.	25		
50 – 75 % of field within 330 ft.	15		
25 – 50 % of field within 330 ft.	10		
<25% of field within 330 ft	1		
Fence rows, cross fencing (>50%)		_____	_____
with ungrazed woody cover (>10 ft. wide)	15		
with grazed woody cover (>10 ft. wide)	5		
(A) Total Pastureland/hayland Habitat Points (100 maximum)		_____	_____
(B) Pastureland/hayland Habitat Index (Total points/100)		_____	_____

HABITAT TYPE INDEX (HTI) WORKSHEET FOR PINE FOREST HABITAT (Predominantly Pine)

Participant_____ Tract No. _____
Date _____ Field No. _____
Observer _____ Acres _____

Note: This form may be used for all pine forests that are planned and managed alike.

PINE FOREST HABITAT INDEX	POINTS	EXIST	PLAN
Mature Pine Stand Density, Basal Area			
<60 square ft/ac	25		
60-80 square ft/ac	10		
>80 square ft/ac	1		
OR if no overstory: Site (Clearcut area or pastureland conversions)			
Pine, other than longleaf, regeneration			
<300 trees per acre	25		
300-500 trees per acre	10		
>500 trees per acre, <50 trees per acre	1		
OR if the site is within longleaf pine range:			
Longleaf Pine Restoration (300-500 trees per acre)			
Ex: 435 trees per acre (10 x 10 spacing) maximum			
302 trees per acre (12 x 12 spacing) minimum			
Must contain a prescribed burning plan	25		
Must be Historical Longleaf Pine site			
Prescribed Burning			
2-3 year frequency	30		
Every year	10		
>3 year frequency	1		
Distance to native herbaceous cover (> 40 'wide,>1/2 acre in size)			
>75% of stand within 330 ft.	25		
50 – 75 % of field within 330 ft.	15		
25 – 50 % of field within 330 ft.	10		
<25% of stand within 330 ft	1		
Composition, >5% of stand (Max. 20 points)			
Mast producing oaks (>10" DBH) present Or seedlings planted	10		
Soft mast producers present or planted such as persimmon, blackberry, sumac, elderberry, black cherry	10		
(A) Total Pine Forest Habitat Points (100 maximum)			
(B) Pine Forest Habitat Index (Total points/100)			

HABITAT TYPE INDEX (HTI) WORKSHEET FOR HARDWOOD FOREST HABITAT (Predominantly Hardwood)

Participant_____ Tract No. _____
Date _____ Field No. _____
Observer _____ Acres _____

Note: This form may be used for all hardwood forests that are planned and managed alike.

EXISTING CONDITION (CIRCLE APPROPRIATE SCORE VALUE)				
TREE SIZE		**NUMBER OF HARDWOOD SPECIES**		
TREE CLASS	**SIZE**	**1**	**2 TO 5**	**> 5**
Seedlings	< 3 ' tall	1 point	10 points	15 points
Saplings	> 3 ' tall, < 3" DBH	1 point	15 points	20 points
Poles	3 – 10 " DBH	2 points	20 points	25 points
Sawtimber	> 10 " DBH	10 points	25 points	30 points
No. of cavity trees or dead snags (>10") *present*, regardless of number of species		2 points	5 points	10 points

PLANNED CONDITION (CIRCLE APPROPRIATE SCORE VALUE)				
TREE SIZE		**NUMBER OF HARDWOOD SPECIES**		
TREE CLASS	**SIZE**	**1**	**2 TO 5**	**> 5**
Seedlings	< 3 ' tall	1 point	10 points	15 points
Saplings	> 3 ' tall, < 3" DBH	1 point	15 points	20 points
Poles	3 – 10 " DBH	2 points	20 points	25 points
Sawtimber	> 10 " DBH	10 points	25 points	30 points
No. of cavity trees or dead snags (>10") *planned* regardless of number of species		2 points	5 points	10 points

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HARDWOOD FOREST HABITAT INDEX	**POINTS**	**EXIST**	**PLAN**
(A) Total Hardwood Forest Habitat Points (100 maximum)		_____	_____
(B) Hardwood Forest Habitat Index (Total points/100)		_____	_____

HABITAT TYPE INDEX (HTI) WORKSHEET FOR RIPARIAN HABITAT

Participant_____ Tract No. _____
Date _____ Field No. _____
Observer _____ Acres _____

Note: This form may be used for riparian areas adjacent to streams, ponds, and/or wetlands.

RIPARIAN HABITAT INDEX	***POINTS***	***EXIST.***	***PLAN***
Species Composition (>50 % of the area)		_____	_____
Mixed hardwood	25		
Mixed Pine-Hardwood	20		
Native shrubs and/or herbaceous vegetation	15		
Pine trees	1		
Width of Riparian Area (>50 % of the area)		_____	_____
>100 feet	25		
51-99 feet	20		
35-50 feet	15		
15-49 feet	10		
<15 feet	1		
Grazed or ungrazed (>50 % of the area)		_____	_____
Ungrazed	25		
Grazed	5		
Tree canopy cover		_____	_____
>75 percent canopy cover	25		
50-74 percent canopy cover	20		
25-49 percent canopy cover	15		
<25 percent canopy cover	1		
(A) Total Riparian Habitat Index Points (100 maximum)		_____	_____
(B) Riparian Habitat Index (Total points/100)		_____	_____

WILDLIFE HABITAT EVALUATION SUMMARY
CALCULATION SHEET
EXISTING CONDITION

HABITAT TYPE	FIELD NO.	HABITAT INDEX		ACRES		WEIGHTED INDEX	HABITAT TYPE INDEX
________	_____	______	X	______	=	________	
	_____	______	X	______	=	________	
	_____	______	X	______	=	________	
	_____	______	X	______	=	________	
	_____	______	X	______	=	________	
		TOTAL		______		________	

Total Wt. Index / Total acres = ________

HABITAT TYPE	FIELD NO.	HABITAT INDEX		ACRES		WEIGHTED INDEX	HABITAT TYPE INDEX
________	_____	______	X	______	=	________	
	_____	______	X	______	=	________	
	_____	______	X	______	=	________	
	_____	______	X	______	=	________	
		TOTAL		______		________	

Total Wt. Index / Total acres = ________

HABITAT TYPE	FIELD NO.	HABITAT INDEX		ACRES		WEIGHTED INDEX	HABITAT TYPE INDEX
________	_____	______	X	______	=	________	
	_____	______	X	______	=	________	
	_____	______	X	______	=	________	
	_____	______	X	______	=	________	
		TOTAL		______		________	

Total Wt. Index / Total acres = ________

HABITAT TYPE	FIELD NO.	HABITAT INDEX		ACRES		WEIGHTED INDEX	HABITAT TYPE INDEX
________	_____	______	X	______	=	________	
	_____	______	X	______	=	________	
	_____	______	X	______	=	________	
	_____	______	X	______	=	________	
		TOTAL		______		________	

Total Wt. Index / Total acres = ________

WILDLIFE HABITAT EVALUATION SUMMARY CALCULATION SHEET

PLANNED CONDITION

HABITAT TYPE	FIELD NO.	HABITAT INDEX		ACRES		WEIGHTED INDEX	HABITAT TYPE INDEX
________	_____	______	X	______	=	________	
	_____	______	X	______	=	________	
	_____	______	X	______	=	________	
	_____	______	X	______	=	________	
		TOTAL		______		________	

Total Wt. Index / Total acres = ________

HABITAT TYPE	FIELD NO.	HABITAT INDEX		ACRES		WEIGHTED INDEX	HABITAT TYPE INDEX
________	_____	______	X	______	=	________	
	_____	______	X	______	=	________	
	_____	______	X	______	=	________	
	_____	______	X	______	=	________	
		TOTAL		______		________	

Total Wt. Index / Total acres = ________

HABITAT TYPE	FIELD NO.	HABITAT INDEX		ACRES		WEIGHTED INDEX	HABITAT TYPE INDEX
________	_____	______	X	______	=	________	
	_____	______	X	______	=	________	
	_____	______	X	______	=	________	
	_____	______	X	______	=	________	
		TOTAL		______		________	

Total Wt. Index / Total acres = ________

HABITAT TYPE	FIELD NO.	HABITAT INDEX		ACRES		WEIGHTED INDEX	HABITAT TYPE INDEX
________	_____	______	X	______	=	________	
	_____	______	X	______	=	________	
	_____	______	X	______	=	________	
	_____	______	X	______	=	________	
		TOTAL		______		________	

Total Wt. Index / Total acres = ________

HABITAT TYPE INDEX (HTI)
SUMMARY

The tract or farm habitat index is calculated by taking the sum of the weighted habitat indexes divided by the total acres in the planning area.

EXISTING CONDITION

HABITAT TYPE	HABITAT INDEX		ACRES		WEIGHTED INDEX	FARM/TRACT INDEX
Cropland	_____	X	_____	=	_____	
Old Field Habitat	_____	X	_____	=	_____	
Pastureland/Hayland	_____	X	_____	=	_____	
Pine Forest	_____	X	_____	=	_____	
Hardwood Forest	_____	X	_____	=	_____	
Riparian Habitat	_____	X	_____	=	_____	
	TOTAL		_____		_____	

Total Wt. Index / Total acres = _____

PLANNED CONDITION

HABITAT TYPE	HABITAT INDEX		ACRES		WEIGHTED INDEX	FARM/TRACT INDEX
Cropland	_____	X	_____	=	_____	
Old Field Habitat	_____	X	_____	=	_____	
Pastureland/Hayland	_____	X	_____	=	_____	
Pine Forest	_____	X	_____	=	_____	
Hardwood Forest	_____	X	_____	=	_____	
Riparian Habitat	_____	X	_____	=	_____	
	TOTAL		_____		_____	

Total Wt. Index / Total acres = _____

**Total Weighted Index of Planned Condition must be 0.5 or greater to meet RMS Quality Criteria.*

****For use with cost-share programs that require a NET Increase in HTI****

HABITAT TYPE INDEX (HTI)
NET EFFECT OF PLAN

(Planned Farm/Tract Index - Existing Farm/Tract Index) = Net Effect of Plan

_____ - _____ = _____

STREAM ASSESSMENT PROCEDURE

(Modified from Stream Visual Assessment Protocol, December, 1998)

Landowner's Name: _____ Date: _____

County: _____ Prepared by: _____

INSTRUCTIONS: Evaluate a reach of stream equal to about 10 times the average width of the stream. Circle the appropriate score or interpolate between the scores. See the considerations below in completing assessment.

- Ditches may also be assessed if that have perennial or intermittent flow, or if they would qualify for CRP Riparian Forest Buffer.
- Channel widths, depths, and active flood plains are based on bankfull elevations. Bankfull flow corresponds to a 1.5 to 2 years storm event.
- Flood prone areas are based on width at two times the maximum depth of the stream at bankfull flow. If the flow is contained within the channel at two times the maximum depth, then the channel is incised.
- Flooding occurs when the water level reaches the active flood plain. An adequate flood plain is generally 1.5 to 2 times the width of the average stream width at bankfull elevation.

1. Channel Condition (adequate floodplain is generally at least 2 times the channel width)

Natural channel; no structures, dikes. No evidence of down cutting or excessive lateral cutting	Evidence of past channel alteration, but with significant recovery of channel and banks. Any dikes or levees are set back to provide access to an adequate floodplain.	Altered channel; <50% of the reach with riprap and/or channelization. Excess aggradation; braided channel. Dikes or levees restrict floodplain.	Channel is actively down cutting or widening, >50% of the reach with riprap or channelization. Dikes or levees prevent access to the floodplain.
10	7	3	1

SCORE: _____

2. Hydrology Alteration (flooding is out of bank flooding)

Flooding out of bank occurs every 1.5 or 2.0 years. No dams, no water withdrawals, no dikes or other structures limiting the stream's access to the floodplain. Channel is not incised.	Flooding occurs only once every 3-5 years; limited channel incision. Or withdrawals, although present, do not affect available habitat for biota.	Flooding occurs only once every 6-10 years; channel deeply incised. Or withdrawals significantly affect available low flow habitat for biota.	No flooding; channel deeply incised or structures prevent access to floodplain or dam operations prevent flood flows. Or withdrawals have caused severe loss of low flow habitat. Or flooding occurs on a 1 year rain event or less.
10	7	3	1

SCORE: _____

3. Riparian Zone (evaluate general conditions along entire reach, natural vegetation includes hardwood trees, mixed shrubs, and native herbaceous species)

Natural vegetation extends more than 50 feet on each side.	Natural vegetation extends at least 35 feet on each side.	Natural vegetation extends at least 15 feet on each side.	Natural vegetation extends < 15 feet on each side.
10	8	5	1

SCORE: _____

4. Bank Stability

Banks are stable; banks are low and at elevation of active floodplain; 33% or more of eroding banks are on outside bends and are protected by roots extending into the base flow elevation.	Moderately stable; banks are low; <33% of eroding banks are on outside bends and are protected by roots extending into the base flow.	Moderately unstable; banks are high and flooding occurs 1 year out of 5 or less frequently. Outside banks are actively eroding with some slope failures.	Unstable; banks are high and eroding in some straight reaches and inside banks; numerous slope failures.
10	7	3	1

SCORE: _____

5. Water Appearance

Very clear; or clear but tea colored; objects visible at depths of 3-6 feet. No noticeable film on surface or submerged objects.	Occasionally cloudy, especially after storm event; but clears rapidly; objects visible at depth of 1.5-3 feet; may have slight green color.	Considerable cloudiness most of the time; objects visible to depth of .5-1.5 feet; submerged objects with heavy green film, or moderate odor of ammonia.	Very turbid or muddy appearance most of the time; objects visible to depth <.5 feet; heavy coat of film on surface or submerged objects; strong odor of ammonia.
10	7	3	1

SCORE: _____

6. Nutrient Enrichment

Clear water along entire reach; little or no algal growth present.	Fairly clear or slightly greenish water along entire reach; moderate algal growth on submerged objects.	Greenish water along entire reach; abundance of green macrophytes, especially during warm months.	Pea green, gray, or brown water along entire reach; thick algal mats in stream.
10	7	3	1

SCORE: _____

7. Barriers to Fish Movement

No barriers; natural drops <1 foot.	Seasonal water withdrawals inhibit movement of fish.	Drop structures, culverts (<1 foot drop) present within reach.	Drop structures, culverts, or dams present within 3 miles of reach.	Drop structures, culverts, or dams (>1 foot drop) present within reach.
10	8	5	3	1

SCORE: _____

8. In-stream Fish Cover (cover types: large woody debris, deep pools, overhanging vegetation, boulders/cobble, riffles, undercut banks, thick root mats)

>7 cover types	6-7 cover types	4-5 cover types	2-3 cover types	1 or less cover types present.
10	8	5	3	1

SCORE: _____

9. Pools

Deep and shallow pools abundant (>3); pools at least 5 ft. deep.	Pools present, but not abundant (<3); pools at least 3 ft. deep.	Pools present, but shallow, <3 ft. deep.	Pools absent; entire bottom visible.
10	7	3	1

SCORE: _____

10. Canopy Cover (Use coldwater or warm water below, not both)
Coldwater Fishery (Pickens, Oconee, Greenville Counties above US Hwy 11)

>75% of water surface shaded and upstream 2-3 miles generally shaded.	>50% shaded in reach; or >75% shaded in reach and 2-3 miles upstream poorly shaded.	20-50% shaded.	<20% shaded in reach.
10	7	3	1

Warm water fishery (all area of S.C. except as noted above)

25-90% of reach shaded.	>90% shaded; full canopy.	<25% of surface shaded in reach.
10	7	1

SCORE: _____

11. Manure Presence

No livestock accessible to stream, riparian area, or floodplain.	Evidence of livestock access to riparian area.	Occasional manure in stream; waste storage structure located in floodplain.	Extensive amount of manure on banks or in stream.
10	5	3	1

SCORE: _____

AVERAGE SCORE (TOTAL SCORE / 11): _____

Enter score on SC-CPA-52, Water Quality.

If more detailed analysis is needed use:
12. Beck's Index (Stream macro-invertebrates observed; attach data sheet).

Habitat Quality Rating

< 6.0	**Poor**
6.1 – 7.4	**Fair**
7.5 – 8.9	**Good**
> 9.0	**Excellent**

Beck's Index
For
Stream Macro-invertebrates

(Tally number of individuals in each Taxa)

Group 1 Taxa
- Stonefly _____
- Caddis fly _____
- Water penny _____
- Riffle beetle _____
- Gilled snail _____
- Mayfly _____
- Dobsonfly (hellgrammite) _____

Group 2 Taxa
- Crayfish _____
- Sowbug _____
- Scud _____
- Alderfly larvae _____
- Fish fly larvae _____
- Damselfly _____
- Watersnipe fly larvae _____
- Crane fly _____
- Beetle larvae _____
- Dragonfly _____
- Clam _____

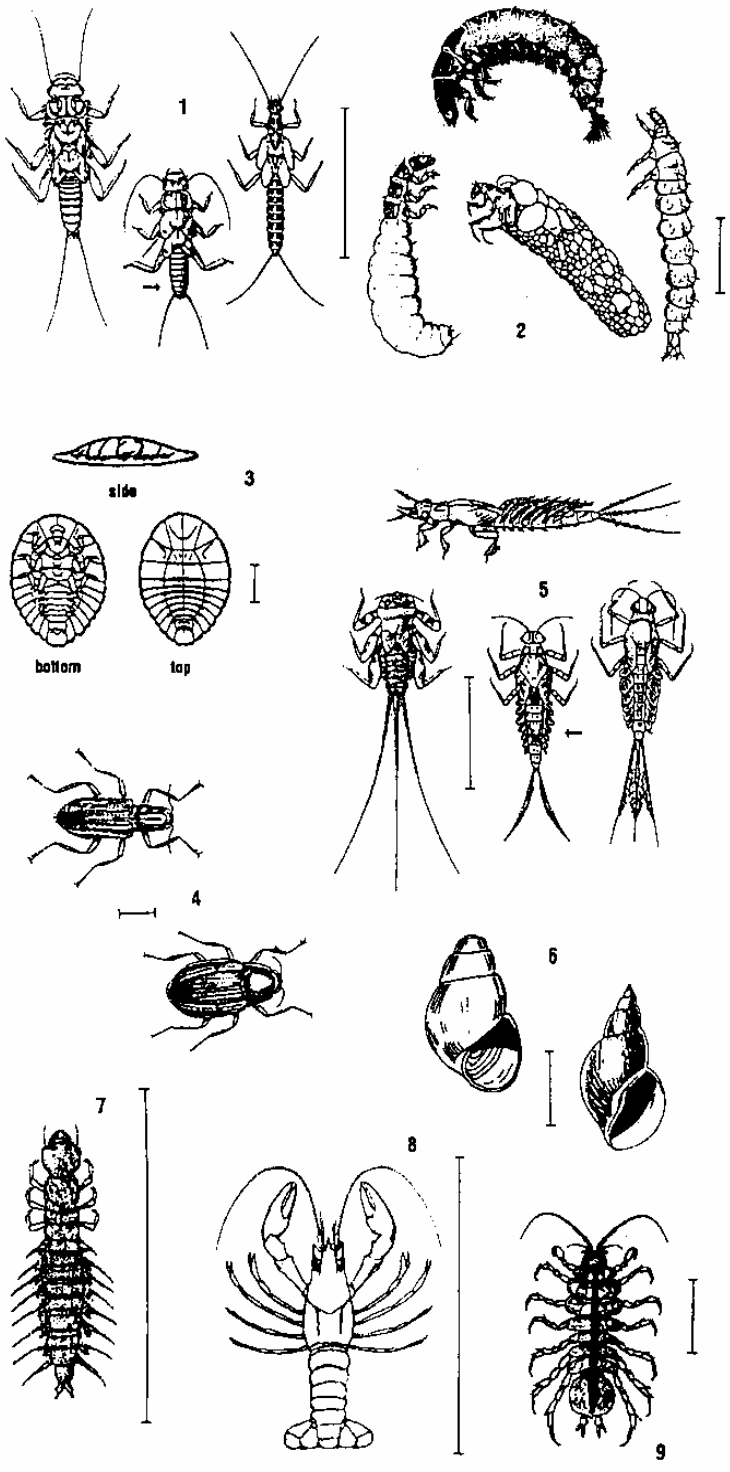
Group 3 Taxa
- Aquatic worm _____
- Midge fly larvae _____
- Black fly larvae _____
- Leech _____
- Pouch snail _____
- Other snails _____

Beck's Index:
(Use total number of different Taxa in each Group)

BI = 2 x (Group 1) + (Group 2)

Beck's Index Values

0	Stream grossly polluted
1-5	Stream moderately polluted
6-9	Stream clean, but monotypic habitat
10+	Stream clean



Bar line indicate relative size

Stream Invertebrates

Group One Taxa

Pollution sensitive organisms found in good quality water.

1 **Stonefly Order Plecoptera.** 1/2" to 1 1/2", 6 legs with hooked antenna, 2 hair-line tails. Smooth (no gills) on lower half of body (see arrow).

2 **Caddisfly: Order Trichoptera.** Up to 1", 6 hooked legs on upper third of body, 2 hooks at back end. May be in a stick, rock, or leaf case with its head sticking out. May have fluffy gill tufts on underside.

3 **Water Penny: Order Coleoptera.** 1/4", flat saucer-shaped body with a raised bump on one side and 6 tiny legs and fluffy gills on the other side. Immature beetle.

4 **Riffle Beetle: Order Coleoptera.** 1/4", oval body covered with tiny hairs, 6 legs, antennae. Walks slowly underwater. Does not swim on surface.

5 **Grilled Snail: Class Gastropoda.** Shell opening covered by thin plate called operculum. When opening is facing you, shell usually opens on right

6 **Mayfly: Order Ephemeroptera.** 1/4" to 1", brown, moving, plate-like or feathery gills on the sides of lower body (see below), 6 large hooked legs, antennae, 2 or 3 long hair-like tails. Tails may be webbed together.

7 **Dobsonfly (hellgrammite): Family Corydalidae.** 3/4" to 4", dark-colored, 6 legs, large pinching jaws, eight pairs feelers on lower half of body with paired cotton-like gill tufts along underside, short antennae, 2 tails, and 2 pairs of hooks at back end.

Group Two Taxa

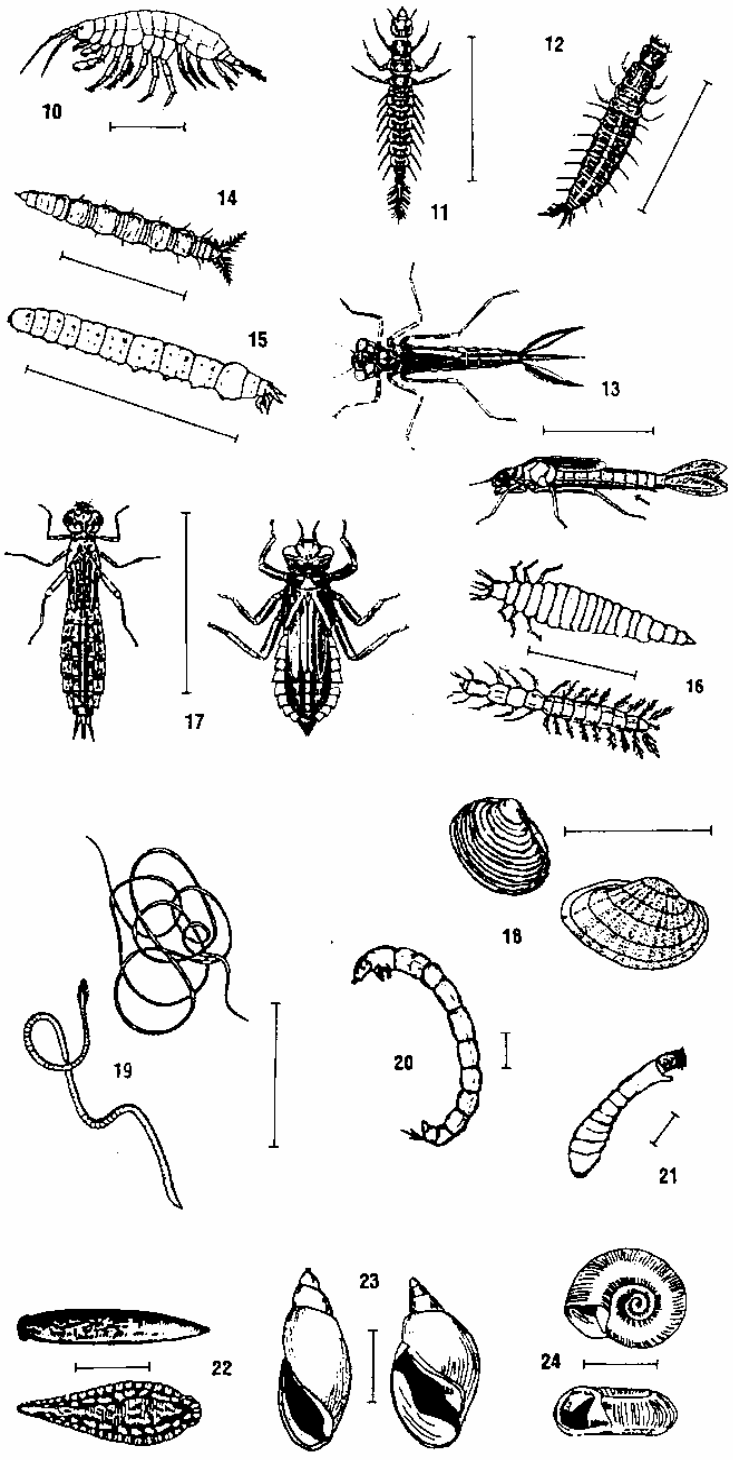
Somewhat pollution tolerant organisms can be in good or fair quality water.

8 **Crayfish: Order Decapoda.** Up to 6", 1 large claws, 8 legs, resembles small lobster.

9 **Sowbug: Order Isopoda.** 1/4" to 3/4", gray oblong body wider than it is high, more than 6 legs, long antennae.

Source: Izaak Walton League of America, 707 Conservation Lane, Gaithersburg, MD 20878-2983 (800) BUG-IWLA

(NWCC Technical Note 99-1, Stream Visual Assessment Protocol, December 1998) 19



Bar line indicate relative size

Group Two Taxa

Somewhat pollution tolerant organisms can be in good or fair quality water.

10 **Scud: Order Amphipoda.** 1/4", white to gray, body higher than it is wide, swims sideways, more than 6 legs, resembles small shrimp.

11 **Alderfly Larva: Family Sialedae.** 1" long. Looks like small Hellgramite but has long, thin, branched tail at back end (no hooks). No gill tufts underneath.

12 **Fishfly Larva: Family Cordalidae.** Up to 1/2" long. Looks like small hellgramite but often a lighter reedish-tan color, or with eyllowish streaks. No gill tufts underneath.

13 **Damselfly: Suborder Zugoptera.** 1/2" to 1" large eyes, 6 thin hooked legs, 3 broad oar-shaped tails, positioned like a tripod. Smooth (no gills) on sides of lower half of body. (See arrow.)

14 **Watersnipe Fly Larva: Family Atherici-dae (Atherix).** 1/4" to 1", pale to green, tapered body, many caterpillar-like legs, conical head, feathery "horns" at back end.

15 **Crane Fly: Suborder Nematocera.** 1/3" to 2", milky, green, or light brown, plump caterpillar-like segmented body, 4 finger-like lobes at back end.

16 **Beetle Larva: Order Coleoptera.** 1/4" to 1", light-colored, 6 legs on upper half of body, feelers, antennae.

17 **Dragon fly: Suborder Anisoptera.** 1/2" to 2", large eyes, 6 hooked legs. Wide oval to round abdomen.

18 **Clam: Class Bivalvia.**

Group Three Taxa

Pollution tolerant organisms can be in any quality of water.

19 **Aquatic Worm: Class Oligochaeta.** 1/4" to 2", can be very tiny, thin worm-like body.

20 **Midge Fly Larva: Suborder Nemato-cera.** Up to 1/4", dark head, worm-like segmented body, 2 tiny legs on each side.

21 **Blackfly Larva: Family Simulidae.** Up to 1/4", one end of body wider. Black head, suction pad on other end.

22 **Leech: Order Hirudinea.** 1/4" to 2", brown, slimy body, ends with suction pads.

23 **Pouch Snail and Pond Snails: Class Gastropoda.** No operculum. Breath air. When opening is facing you, shell usually open to left.

24 **Other Snails: Class Gastropoda.** No operculum.Breath air. Snail shell coils in one plane.

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	Application Evaluation Worksheet **WHIP 2005**	NRCS-LTP-15 OMB NO. 0578-0013 SC Revised 11/04

Applicant Name:

Address:

Application No:

I. Land Use	Contract Acres
Cropland	
Pasture / Hayland	
Pine Forestland	
Hardwood Forest	
TOTAL CONTRACT ACRES	

II. State WHIP Ranking Criteria	Point Value
Wildlife Habitat Evaluation, Net Effect (Subtract the *Existing* score from the *Planned* score and multiply by 100). **Note**: Planned score must be at least .5 or 50% of maximum. AND/OR S.C. Stream Assessment (Subtract *Existing* condition from the *Planned* anticipated condition and multiply by 10). **Note**: Panned score must be 7.5 or greater.	

III. Other Benefit Points	Point Value
Early Successional Vegetation (>1 acre) – 10 points	
Stream Habitat Restoration and Management (entire stream segment) – 10 points	
Riparian Forest Buffer (>50 feet wide, entire length) – 10 points	
Longleaf Pine Restoration (>10 acres) – 10 points	
No-till cropland (>10 acres) – 10 points (No cost share on no-till)	
Grand Total of II. And III.	

IV. Conservation Practices (See attached list of approved practices for cost share)

Conservation Practices	Practice Extent (Amount)	Estimated Cost (State Average Cost)	Cost-Share Amount or Rate required by Applicant

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	**Application Evaluation Worksheet**	NRCS-LTP-15 OMB NO. 0578-0013 **SC Revised 1/04**

IV. Certification

I acknowledge that I have reviewed the information above and the cost-share percentages reflect my contract offer.

_____ _____

(Applicant's Signature) **(Date)**

V. Designated NRCS Conservationist

_____ _____

(Conservationist's Signature) **(Date)**

VI. Wildlife Biologist (NRCS, FWS, SC DNR)

_____ _____

(Biologist's Signature) **(Date)**

Privacy Act Statement: The following statements are made in accordance with the Privacy Act of 1974 (5U.S.C. 522a). The authorities for requesting the information to be supplied on this form are: 16 U.S.C. 590a-f (Soil and Water Conservation); 16 U.S.C. 3801 et seq. (Food Security Act of 1985, as amended), and the regulations promulgated thereunder. The information requested is necessary for the evaluation of an application, development and implementation of a conservation plan as the basis for satisfying program eligibility and compliance requirements, and for providing technical, educational, or financial assistance under the previously mentioned authorities. Furnishing this information is voluntary, however, failure to furnish correct, complete information will result in the withholding or withdrawal of such technical, educational, or financial assistance. This information maybe furnished to other USDA agencies, the Internal Revenue Service, the Department of Justice, or other State, or Federal law enforcement agencies, or in response to orders of a court, magistrate, or administrative tribunal.

OMB DISCLOSURE STATEMENT

Public Reporting burden for this collection of information is approximately 20 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Agriculture Clearance Officer OIRM, AG Box 7630, Washington, D.C. 20250-7630; and to the Office of Management and Budget, Paperwork Reduction Project (OMB NO. 0578-0013), Washington, D.C. 20503.

APPROVED WHIP PRACTICES FOR COST SHARE

Required Practices (At least one of the following must be planned):

645 Upland Wildlife Habitat Management
644 Wetland Wildlife Habitat Management
657 Wetland Development or Restoration
395 Stream Habitat Improvement and Management
647 Early Successional Habitat Management

Associated Practices:

560 Access Road
342 Critical Area Planting (native vegetation only)
356 Dike
386 Field Borders (native vegetation only)
394 Firebreaks
490 Forest Site Preparation
666 Forest Stand Improvement
422 Hedgerow Planting
460 Land Clearing (permanent firebreaks only)
338 Prescribed Burning
391 Riparian Forest Buffer
612 Tree/Shrub Establishment
512 Pasture/Hayland Planting (Native Warm Season Grasses only)
382 Fence (livestock exclusion)